



Agricultural Department.

TREATMENT OF LAND.

The question of a right treatment of land is one which should receive more attention from farmers than it does. For upon this depends, in a large measure, success in raising good crops. No land that is ill-treated ever yet produced well, no more than ill-treated stock will thrive, increase and be profitable. As the object in treating land well is keeping up its producing capacity, I would mention, first, as a means to this end, plowing it in the right stage. Land to be kept lively, should never, in any case, be plowed wet. If plowed in this condition it will become cloddy and divested of much of its life-giving properties. Especially will this be the case if dry weather follows. The right stage at which to plow land is when it is sufficiently dry to crumble up nicely when turned over.

Again, land should not only not be plowed when wet, but should not be disturbed in any way, either by wagging over it or allowing stock to run upon it when in this condition. Far better had the farmer lay idle from his plowing for a few days, and in the case of his stock, provide himself with sufficient roughness in the fall so as to be prepared to remove them from the fields when wet weather prevails.

Next, as an essential means of keeping up the producing capacity of the land, is that of interchange of crops and manuring. No land, however rich and productive it may be, will remain so, that is successively run in the same crop. To rightly keep up land, crops should be frequently changed, while all the worn-out portions should receive as much fertilizing material as is possible to place upon them. How much might this latter means be enlarged and applied if farmers would only take the time to do so. But the argument of most farmers is, it is impossible to make a general use of manures as the area requiring it far exceeds the supply on hand. True, the supply is often less than what is really needed, but use what is, and observe this rule in its application: Go as far as possible with each year's supply to give a good coating. Next year begin where you left off the previous year, and apply in the same way. Keep up this plan and you will be surprised to see in three or four years how much land you will have manured, while you will be doubly compensated in the large yield of the land thus treated.

There are other methods of keeping up land that might be very profitably applied. But none of these methods would we be willing to substitute for manuring, but would rather couple them with it. If this was more generally practised by farmers, what a different aspect would the farming interest present in the way of good crops!

Many farmers complain that their land is becoming unproductive and refuses to yield even a comfortable living. Why this complaint? Is it not because they have neglected to properly care for it? Nature is not so rich in itself but what a constant drain upon it, without some source of renewal, will divest it of its life-giving properties. Just so has it been with many farmers. They have been robbing their land and otherwise imposing upon it, until it refuses to do the work which nature has allotted it.

There are many reasons why farmers should give more attention to the treatment of their land. One is that much of our Western lands are, from a long period of cultivation, becoming old and worn, and require to be renewed, while in all the first settled sections of the West population has become very dense, which has brought farming lands into smaller tracts. Another reason is, we have reached a period of great financial embarrassment in our country's history in consequence of which farm products of all kinds have become very low, even so low that little more than a comfortable living can be made by the greatest industry. These things and many others should lead farmers to place their lands in that stage of production in which the greatest possible yields can be obtained. This will create larger incomes from the farming interest and assist largely in correcting the evils which the present hard times have brought about.

No farmer that treats his farm well and is truly diligent and painstaking in all things ever need complain. A comfortable living he can generally make, and in prosperous times accumulate. His farm once paid for, even though it be small, properly managed and kept up, is a mine in itself from which he can always dig the precious metal. But that this happy condition may always characterize the farmer, every source of care and renewal possible must be bestowed upon his land. This is

a matter of the very first importance. The few rewards of good yields and fair profits that are made without this attention are invariably made from land in its fresh or original state, and never in any case from land that has been long cultivated.—*J. W. M., in Prairie Farmer.*

STOCK FEEDING BY SMALL FARMERS.

About all farmers in this country annually fatten at least a few pigs. But very many farmers who have but 40, or 80, or 100 acres feel they cannot successfully compete in cattle feeding with the large farmer; and unquestionably the farmer who has a lot of 50 or 100 steers has some marked advantages in caring for and feeding them over the man with one, or two, or half a dozen. The work can often be done to much better advantage and much less time in proportion to number, with the large lot. When ready for market the owner of the half-dozen car-loads of steers can choose his market and receive reasonable shipping rates, while the man with but a few is dependent on his local markets or neighboring dealers, or if he attempt to ship at all, he must pay a higher rate.

But, as in most cases, this question has two sides. The advantages are not all in favor of the more extensive dealer. Very often the stock of the small farmer will receive better care and give a better return than those in large lots. Oftentimes, too, a large part of what they eat would be wasted were it not for them. The pasture may often carry the extra steer or two, and yet give grass enough for the cows, and so of the stock field or the hog stock. What is of even more importance, as affecting the profit, is, that while the labor of feeding the small number may really be greater in proportion than in the case of a large number, it really is often done at less cost, because the work is just so much done in addition to what would otherwise be accomplished. A farmer will add the feeding of a half-dozen steers to his usual "chores," and do the work without fatigue or loss of time needed for other labor. The large stock feeder must "make a business" of his work; either for himself or for a hired laborer. This has its good results, but it also causes a direct outlay. Another very important consideration is found in the fact that the average farmer can give much better attention in the way of shelter and protection, and also in variety of food, to his half-dozen steers—thereby securing a larger percentage of gain to food consumed—than is often practicable for the great feeder who numbers his cattle by the hundreds.

These points, at first flash, may not seem of importance; but they are well worth thinking about by those who have but small places. Observation will convince us that, in a good many cases, the reason for superior success by one such farmer over that reached by his neighbor, is, that he is not content to stop with his ordinary "regular" work, but adds to this a number of little things, from each of which he makes some profit.

Nor is it always that the home market is not a good one. At the worst, it is easily reached and can be watched so as to receive the benefit of a rise in prices.

The prices of half a dozen good steers will make a handsome addition to the yearly receipts of a small farmer, and in the large majority of cases we believe it will be a considerably larger sum than would have been obtained from that part of their food which would have been sold had the steers not been kept.—*National Live Stock Journal.*

ARTIFICIAL FATTENING.

The fattening of fowls for market has for a long time occupied the attention of poultry men in this country, but while nearly every known natural process for making the birds take on flesh has been put in practice, little or no regard has ever, I believe, been paid to the use of artificial means for the purpose of bringing about easier and more rapid results. In France and some other countries on the continent of Europe, the fattening of poultry has for years been a study, until it has been reduced almost to a science. Nature is assisted in her work whenever it is practicable, and many curious and ingenious instruments for feeding the birds have been invented. Probably one of the most simple as well as the most effectual of these machines, is now in successful operation in the poultry establishment of a gentleman near Paris. It is constructed in the form of a small rubber pipe about four feet in length, one end of which is attached to a little pump, while the other is placed in a vessel holding the food which is in a liquid form. The fowls are put in a large coop or cage, which is separated into compartments holding only one bird each, room enough being allowed for a very little exercise. It is ascertained by experiment just how much food each fowl can comfortably digest, and the amount is marked on the coop under each division. The food, consisting of a mixture of

Indian meal, barley meal, milk and water, is put into the machine, which is rolled up in front of the nest by means of a light truck, and the operator, opening the bird's mouth, inserts the tube and gently pumps the fluid into the crop, a small faucet being turned when a sufficient quantity has been introduced. A skillful operator will feed about 60 fowls an hour, and perform the work neatly and without cruelty. After having been fed in this manner for a few times, the birds become very tractable, and rather seem to enjoy the operation. The time required to fatten poultry treated as above, is from fifteen to twenty days, according to age and previous condition.—*Exchange.*

RECLAIMING FARMS.

In building up an unprofitable farm, the first aim should be to stop the process of running down; to make it pay first, expenses, and then a slight, yet increasing profit, and to this end both thought and labor must be directed. No matter how cheaply the family has been living, if it is possible to reduce the expenses, do so. Cut off everything except plain food, coarse, warm clothes, a single newspaper. Raise your own vegetables, and save on the meat bill. Pay cash as you go. Everything has to be paid for in the end, and the whole credit system is a delusion and a snare. Enlist the energies and whole nature of each and every member of the family in the one great effort to save the farm, the home. Be proud of your utmost economy; even study the economies of other men. Keep a strict and honest account with everything about the farm, so that you know exactly how you stand. This is the most important of all. Every successful farmer keeps strict accounts. The value of account books on a farm is not so much (as many suppose) to merely show what is received and what is spent, but to show exactly which field or which crop paid best, and where losses were incurred, or too small profits received. The direct bearing of such knowledge on the successful conduct of a farm may be easily understood.

On every farm, but especially on one which is doing poorly, there must be a scrupulous saving of all manurial substances. Barn-yard manure, decayed animal or vegetable matter, refuse of every description, bones gathered up in waste places, leaf-mould hauled from the deep ravines, all these must be utilized, and their effects will soon be evident.—*San Francisco Bulletin.*

RUPTURING CELLS BY FREEZING.

Dr. de Vries is led to believe that in the freezing of plants ice is formed in the interstices or intercellular spaces, and not in the cells themselves, and that the bursting of the cell walls is impossible. It is not the freezing, he claims, that kills, but the thawing out, a thing long known. The difficulty is to so thaw plants as to preserve their integrity. If rupture has not taken place, the plant may remain alive upon being properly thawed out in the dark, and in a close atmosphere. That trees do survive that have been frozen to the heart, and so solidly as to cause their trunks to burst with a loud report, is also well known. The fact is that a certain amount of freezing will kill any tree, and the death point varies with the species, and so does their ability to withstand the freezing of their juices. If frozen to a sufficient degree, the cells burst, and in this case it is hardly probable that the plant will survive, however carefully the thawing may be done. That it may be done in many cases—every nurseryman knows, and hence directions are given in such cases.

Thawing by burying in moist earth is one of the most practical means known, and in the case of tender plants partially frozen, thawing in a dark, close place with copious watering, or better, immersion in water at about 45 degrees, just as the plants begin to show signs of thawing.—*Ex.*

A FARMER, writing to a leading American agricultural paper, asked the question which will also prove interesting to Canadian farmers:—"What is the relative value of corn meal (for steers fed in stable) to corn in the ear (fed out of doors), or, in other words, what per cent. is corn on the cob worth (to fatten cattle fed as above stated) to corn meal; and will hogs do as well after cattle fed meal as corn?" The following reply was given him: We cannot find concise statements showing clearly the absolute gain or loss. At the Industrial University, some three years ago, the steers fed out of doors on whole corn, as against those fed on meal, made the best gain. Hogs will not do as well after cattle fed on corn meal as when the cattle are fed on whole corn. The hogs pick up the whole corn dropped undigested, or only partially so.

HOW TO KILL CANADA THISTLES.—If the land is free from stumps, grubs or rocks, a thorough summer fallow will do it, followed by a hoed crop kept perfectly clean. When the land is full of stumps or rocks, it is difficult to totally eradicate them, since the roots

find a lodgement beneath. If the tops be not allowed to appear above ground during one season, the thistles will be killed.

DOMESTIC.

SOUP, AND HOW TO MAKE IT.

The value of soup as food cannot be over-estimated. In times of severity and distress, when the question has arisen of how to feed the largest number of persons upon the least quantity of food, the aliment chosen has always been soup. There are two reasons for this; first, by the addition of water to the ingredients used we secure the aid of this important agent in distributing nutrition equally throughout the blood, to await final absorption; and second, we gain that sense of repletion to the satisfaction of hunger—the fact being acknowledged that the sensation we call hunger is often allayed by the presence of even innutritious substance in the stomach.

Good soup is literally the juice of any ingredient from which it is made, the extract of the meat, grains, or vegetables composing it. The most economical soups, eaten with bread, will satisfy the hunger of the hardest worker. The absolute nutritive value of soup depends, of course, upon its ingredients; and these can easily be chosen in reference to the maintenance of health. For instance, the pot-liquor in which meat has been boiled needs only the addition of a few dumplings or cereals, and seasoning, to form a perfect nutriment. That produced from skin and bones can be made equally palatable and nutritious by boiling with it a few vegetables and sweet herbs, and some rice, barley, or oatmeal. Even the gelatinous residue produced by long-continued boiling, without the presence of any foreign matter, is a useful emollient application to the inflamed mucous surfaces in some diseases, while it affords at the same time the degree of distention necessary to prevent flatulency.

The time required to make the most palatable and nutritious soup is short. Lean meat should be chopped fine, placed in cold water, in the proportion of a pint to each pound, slowly heated, and thoroughly skimmed. Five minutes boiling will extract from the meat every particle of its nutriment and flavor. The liquor can then be strained off, seasoned, and eaten with bread, biscuit and vegetables. Peas or beans boiled and added to the soup make it the most perfect food for sustaining health and strength. It is the pure juice of the meat and contains all its savory and life-giving principles.

If the family is large, it will be well to keep a clean saucepan or pot on the back of the stove to receive all the clean scraps of meat, bones, and remains of poultry and game, which are found in every kitchen; but vegetables should not be put into it, as they are apt to sour. The proper proportions of soup are one pound of meat and bone, to one and a half quarts of cold water; the meat and bones to be well chopped and broken up, and put over the fire in cold water, being brought slowly to a boil, and carefully skimmed as often as any scum rises; and being maintained at a steady boiling point from two to six hours, as time permits; one hour before the stock is done, add to it one carrot and one turnip pared, one onion stuck with three cloves, and a bouquet of sweet herbs.

When soup is boiled six hours allow two quarts of water to every pound of meat, and see that the pot boils slowly and regularly, and is well skimmed. To keep soup from one meal to another, or over night, pour it into an earthen pot, or bowl, because it will turn by being allowed to remain in the metal pot.—*Juliet Corson.*

ORDER.—Order is the key to comfort in the home, and not only that, but it has everything to do with the happiness of the family. If things can never be found in their right places when wanted—if house linen, street garments, children's playthings and the old magazines, are jumbled promiscuously into one closet—if the napkins and tablecloths repose among the china, and the knives and forks have no settled abiding place—depend upon it that fretfulness and ill-temper will be provoked continually. One of the first and easiest lessons for a child is orderliness, and if rightly taught it soon becomes a confirmed habit as well as a source of pleasure. But if we would make our children orderly we must see that they have a place in which to put everything, or all our teaching will be thrown away. Then having allotted a proper niche to all their childish belongings, require that they return each one to its place when not in use, and you will save yourself many weary steps, besides laying the foundation of methodical habits, which, once formed, will never be forgotten. Of course, there is a decided difference in children—one is naturally careless and requires constant admonition, while another develops orderliness in the very beginning—but still, much may be done by precept (well weighted with example) and the charm and comfort of an orderly home is the most potent of all lessons.—*Christian Intelligencer.*